Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for enhancing dynamic range of data read from an imaging sensor, said imaging sensor comprising N linear pixel arrays, each of the N linear arrays having M **dependently controlled** charge coupled pixels, each pixel charge coupled, and further being coupled to one of N registers, the method comprising:

integrating charge in at least some pixels of the N linear pixel arrays;

combining charge from a first **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge from the first **dependently controlled** region along each of the N linear pixel arrays to each of the N registers, said first **dependently controlled** region of the N linear pixel arrays having at least one pixel line and said at least one pixel line of the first **dependently controlled** region is oriented in generally orthogonal direction to the N linear pixel arrays;

shifting charge from the N registers along a linear path;

representing charge from at least a portion of the first **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N first region data signals;

combining charge from a second **dependently controlled** region of the N linear pixel arrays in the N registers by shifting charge from the second **dependently controlled** region along each of the N linear pixel arrays to each of the N registers, said **first and** second **dependently controlled regions** ~~**region**~~ having at least ~~**one**~~ **three** pixel **lines** ~~**line**~~, and **said at least three pixel lines being** ~~**the region is**~~ oriented in generally orthogonal direction to the N linear pixel arrays;

shifting charge from the N registers along a linear path; and

representing charge from at least a portion of the second **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N second region data signals.

Claim 2 (previously presented): The method for increasing dynamic range recited in claim 1 above further comprises:

presenting said portion of N first region data signals; and

presenting said portion of N second region data signals.

Claim 3 (previously presented): The method for increasing dynamic range recited in claim 2 above, wherein said first portion comprises N first region data signals and said second portion comprises N second region data signals.

Claim 4 (currently amended): The method for increasing dynamic range recited in claim 1 above further comprises:

defining the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor by designating at least one pixel line as belonging to the first **dependently controlled** region of the N linear pixel arrays.

Claim 5 (currently amended): The method for increasing dynamic range recited in claim 4 above, wherein defining the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor by designating at least one pixel line as belonging to the first **dependently controlled** region of the N linear pixel arrays further comprises:

assessing a level of improvement in dynamic range in at least one signal taken from the portion of N first region data signals, and the portion of N second region data signals; and

determining an amount of pixel lines belonging to the first **dependently controlled** region of the N linear pixel arrays for improving the dynamic range in the at least one signal, wherein said amount of pixel lines relates to the level of improvement in dynamic range.

Claim 6 (currently amended): The method for increasing dynamic range recited in claim 4 above, wherein defining the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor by designating at least one pixel line as belonging to the first **dependently controlled** region of the N linear pixel arrays further comprises:

setting at least one target signal level;

selecting at least one signal from one of the portion of N first region data signals and the portion of N second region data signals; and

comparing the selected at least one signal to the at least one target signal level;

adjusting an amount of pixel lines belonging to the first **dependently controlled** region of the N linear pixel arrays, wherein said adjustment is based on the comparison of the selected at least one signal to the at least one target signal level.

Claim 7 (currently amended): The method for increasing dynamic range recited in claim 6 above, wherein adjusting an amount of pixel lines belonging to the first **dependently controlled** region of the N linear pixel arrays further comprises altering the amount of pixel lines belonging to the first **dependently controlled** region by a predetermined proportion of the amount of pixel lines.

Claim 8 (currently amended): The method for increasing dynamic range recited in claim 6 above, wherein adjusting an amount of pixel lines belonging to the first **dependently controlled** region of the N linear pixel arrays further comprises altering the amount of pixel lines belonging to the first **dependently controlled** region by a predetermined number of pixel lines.

Claim 9 (currently amended): The method for increasing dynamic range recited in claim 6 above further comprises modifying an amount of pixel lines belonging to the second **dependently controlled** region based on the sum of pixel lines in the first **dependently controlled** region and second **dependently controlled** region being equivalent to an amount of pixels in any one of the N linear arrays.

Claim 10 (previously presented): The method for increasing dynamic range recited in claim 9 above, wherein said amount of pixels in each of the N linear arrays is M pixels.

Claim 11 (currently amended): The method for increasing dynamic range recited in claim 9 above further comprises:

integrating charge in at least some pixels of the N linear pixel arrays;

combining charge from the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge from said adjusted amount of pixel lines of the first **dependently controlled** region along each of the N linear pixel arrays to each of the N registers;

shifting charge from the N registers along a linear path;

representing charge from at least a portion of the first **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N first region data signals;

combining charge from the second **dependently controlled** region of the N linear pixel arrays in the N registers by shifting charge from said modified amount of pixel second **dependently controlled** region along each of the N linear pixel arrays to each of the N registers; and

shifting charge from the N registers along a linear path; and

representing charge from at least a portion of the second **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N second region data signals.

Claim 12 (previously presented): The method for increasing dynamic range recited in claim 6 above, wherein said adjustment based on the comparison of the selected at least one signal to the at least one target signal level relates to difference betweens the selected at least one signal to the at least one target signal level.

Claim 13 (previously presented): The method for increasing dynamic range recited in claim 6 above, wherein the at least one target signal is a range of target signal levels, and said adjustment based on the comparison of the selected at least one signal to the at least one target signal level relates to a difference between the selected at least one signal to the range of target signal levels.

Claim 14 (currently amended): The method for increasing dynamic range recited in claim 4 above, wherein defining the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor is accomplished during a setup phase of a device incorporating said imaging sensor.

Claim 15 (currently amended): The method for increasing dynamic range recited in claim 4 above, wherein defining the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor is accomplished dynamically, following said integrating charge in at least some pixels of the N linear pixel arrays, and prior to a subsequent integration of charge in at least some pixels of the N linear pixel arrays.

Claim 16 (previously presented): The method for increasing dynamic range recited in claim 1 above further comprises:

presenting said portion of N first region data signals as a first channel of small-amplitude signals; and

presenting said portion of N second region data signals as a second channel of large-amplitude signals.

Claim 17 (currently amended): The method for increasing dynamic range recited in claim 16 above further comprises:

re-scaling one of said small-amplitude signals from said first **dependently controlled** region and said large-amplitude signals from said second **dependently controlled** region.

Claim 18 (currently amended): The method for increasing dynamic range recited in claim 17 above, wherein re-scaling one of said small-amplitude signals from said first **dependently controlled** region and said large-amplitude signals from said second **dependently controlled** region is based on a scale of the other of said small-amplitude signals from said first **dependently controlled** region and said large-amplitude signals from said second **dependently controlled** region.

Claim 19 (currently amended): The method for increasing dynamic range recited in claim 16 above further comprises:

determining a relationship between said small-amplitude signals of said first channel from said first **dependently controlled** region, and said large-amplitude signals of said second channel from said second **dependently controlled** region.

Claim 20 (currently amended): The method for increasing dynamic range recited in claim 19 above further comprises:

applying said relationship to the corresponding at least one data signal from the N data signals representing charge from the first **dependently controlled** region of the N linear pixel arrays; and

replacing said at least one of the N data signals representing a saturated condition from the second **dependently controlled** region of the N linear pixel arrays.

Claim 21 (previously presented): The method for increasing dynamic range recited in claim 20 above, wherein each of said N linear pixel arrays corresponds to a wavelength channel of an N wavelength channel spectrum and each of said N data signals representing an amplitude of said N wavelength channels of the spectrum.

Claim 22 (currently amended): The method for increasing dynamic range recited in claim 21 above further comprises:

presenting as a wide dynamic-range spectrum, the data signals from the second **dependently controlled** channel of large-amplitude signals representing charge from said second **dependently controlled** region, and, the corresponding at least one data signal from the N data signals representing charge from the first **dependently controlled** region of the N linear pixel arrays replacing said at least one of the N data signals representing a saturated condition from the second **dependently controlled** region of the N linear pixel arrays.

Claim 23 (previously presented): The method for increasing dynamic range recited in claim 1 above, wherein a corresponding each of said portion of N first region data signals and each of said portion of N second region data signals both correspond to at least one discrete wavelength.

Claim 24 (previously presented): The method for increasing dynamic range recited in claim 1 above further comprises:

combining a part of said portion of N first region data signals with a non-corresponding part of said portion of N second region data signals; and

presenting the part of said portion of N first region data signals and the non-corresponding part of said portion of N second region data signals as a plurality of data signals.

Claim 25 (currently amended): An imaging apparatus having enhancing dynamic range comprising:

an imaging sensor comprising:

N linear arrays, each of the N linear arrays having M **dependently controlled** charge coupled pixels;

M pixel lines, said M pixel lines being oriented in generally orthogonal direction to the N linear pixel arrays;

N registers, wherein one pixel in each of the N linear pixel arrays being charge coupled to a respective one of the N registers;

signal converter connected to at least one of said N registers for representing a charge as a data signal; and

an output node coupled to said signal converter;

a memory connected to said output node;

a readout controller coupled to said imaging sensor for controlling readout of said M **dependently controlled** charge coupled pixels in all the N linear pixel arrays; and

means for instructing said readout controller for combining charge from a first **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge from the first **dependently controlled** region along each of the N linear pixel arrays to each of the N registers, said first **dependently controlled** region of the N linear pixel arrays having at least one pixel line, and for shifting charge from the N registers along a linear path to said signal converter, and for transferring said N first **dependently controlled** region data signals to said memory, and further for instructing said readout controller for combining charge from a second **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge along each of the N linear pixel arrays to each of the N registers**, said first and second dependently controlled regions having at least three pixel lines,** and for shifting charge from the N registers along a linear path to said signal converter, and for transferring said N second region data signals to said memory.

Claim 26 (previously presented): The imaging apparatus recited in claim 25 above, wherein said memory being coupled to a display device.

Claim 27 (currently amended): The imaging apparatus recited in claim 25 above, wherein said means for instructing alters an amount of pixel lines in a **dependently controlled** region prior to instructing said readout controller.

Claim 28 (currently amended): A computer program product, comprising a computer-readable medium having stored thereon computer executable instructions for implementing a method for enhancing dynamic range of data read from an imaging sensor having a controller that executes a plurality of reordered commands, said computer executable instructions comprising:

instructions for integrating charge in at least some pixels of ~~the~~ N linear pixel arrays;

instructions for combining charge from a first **dependently controlled** region of ~~the~~ N linear pixel arrays of the imaging sensor in the N registers by shifting charge from the first **dependently controlled** region along each of the N linear pixel arrays to each of the N registers, said first **dependently controlled** region of the N linear pixel arrays having at least one pixel line and said at least one pixel line of the first **dependently controlled** region is oriented in generally orthogonal direction to the N linear pixel arrays;

instructions for shifting charge from the N registers along a linear path;

instructions for representing charge from at least a portion of the first **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N first region data signals;

instructions for combining charge from a second **dependently controlled** region of the N linear pixel arrays in the N registers by shifting charge from the second **dependently controlled** region along each of the N linear pixel arrays to each of the N registers, said **first and** second **dependently controlled regions** ~~region~~ having at least ~~one~~ **three** pixel **lines** ~~line~~, and **said at least three pixel lines being** ~~the region is~~ oriented in generally orthogonal direction to the N linear pixel arrays; and

instructions for shifting charge from the N registers along a linear path; and

instructions for representing charge from at least a portion of the second **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N second region data signals.

Claim 29 (currently amended): The computer program product recited in claim 28 above further comprises:

instructions for defining the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor by designating at least one pixel line as belonging to the first **dependently controlled** region of the N linear pixel arrays.

Claim 30 (currently amended): The computer program product recited in claim 29 above further comprises:

instructions for assessing a level of improvement in dynamic range in at least one signal taken from the portion of N first region data signals, and the portion of N second region data signals; and

instructions for determining an amount of pixel lines belonging to the first **dependently controlled** region of the N linear pixel arrays for improving the dynamic range in the at least one signal, wherein said amount of pixel lines relates to the level of improvement in dynamic range.

Claim 31 (currently amended): The computer program product recited in claim 29 above further comprises:

instructions for setting at least one target signal level;

instructions for selecting at least one signal from one of the portion of N first region data signals and the portion of N second region data signals;

instructions for comparing the selected at least one signal to the at least one target signal level; and

instructions for adjusting an amount of pixel lines belonging to the first **dependently controlled** region of the N linear pixel arrays, wherein said adjustment is based on the comparison of the selected at least one signal to the at least one target signal level.

Claim 32 (currently amended): The computer program product recited in claim 31 above further comprises:

instructions for altering the amount of pixel lines belonging to the first **dependently controlled** region by a predetermined proportion of the amount of pixel lines.

Claim 33 (currently amended): A method for reading data from an imaging sensor, said imaging sensor comprising N linear pixel arrays, each of the N linear arrays having M **dependently controlled** charge coupled pixels, each pixel charge coupled, and further being coupled to one of N registers, the method comprising:

defining a first **dependently controlled** region of the N linear pixel arrays of the imaging sensor, said first **dependently controlled** region having at least one pixel ~~**line and said at least one pixel line is oriented in generally orthogonal direction to the N linear pixel arrays**~~;

defining a second **dependently controlled** region of the N linear pixel arrays of the imaging sensor, said second **dependently controlled** region having at least one pixel line**, and said first and second dependently controlled regions having at least three pixel lines, and said at least three pixel lines of said first and second dependently controlled regions being** ~~**and said at least one pixel line is**~~ oriented in generally orthogonal direction to the N linear pixel arrays;

defining a dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor, said dark **dependently controlled** region having a plurality of **dependently controlled** pixel lines, said plurality of **dependently controlled** pixel lines are oriented in generally orthogonal direction to the N linear pixel arrays and said plurality of **dependently controlled** pixel lines are not exposed to light;

receiving a first image on at least some pixels of the first **dependently controlled** region of the N linear pixel arrays;

receiving a second image on at least some pixels of the second **dependently controlled** region of the N linear pixel arrays;

integrating charge in the at least some pixels of the first **dependently controlled** region of the N linear pixel arrays and in the at least some pixels of the second **dependently controlled** region of the N linear pixel arrays;

shifting charge from the at least some pixels of the first region and second **dependently controlled** region of the N linear pixel arrays along a linear path into said dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor; and

reading out charge from said dark **dependently controlled** region, said charge from said dark **dependently controlled** region having been shifted from each **dependently controlled** region defined on the N linear pixel arrays of the imaging sensor.

Claim 34 (currently amended): The method for reading data recited in claim 33 above, wherein, for each **dependently controlled** region, reading out charge from said dark **dependently controlled** region further comprises:

combining charge integrated in a region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge from the dark **dependently controlled** region along each of the N linear pixel arrays to each of the N registers;

shifting charge from the N registers along a linear path; and

representing charge from at least a portion of the **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N data signals associated with the **dependently controlled** region.

Claim 35 (currently amended): The method for reading data recited in claim 34 above further comprises:

shifting charge from the dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers; and

discarding the charge shifted from the dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor.

Claim 36 (currently amended): The method for reading data recited in claim 34 above, wherein the first **dependently controlled** region is further defined as a third **dependently controlled** region and a fourth **dependently controlled** region of the N linear pixel arrays of the imaging sensor.

Claim 37 (previously presented): The method for reading data recited in claim 36 above further comprises:

presenting said corresponding portion of N first region data signals; and

presenting said corresponding portion of N second region data signals.

Claim 38 (previously presented): The method for reading data recited in claim 37 above, wherein presenting said portion of N first region data signals further comprises:

presenting said corresponding portion of N third region data signals; and

presenting said corresponding portion of N fourth region data signals.

Claim 39 (currently amended): The method for reading data recited in claim 33, wherein a sum of the pixel lines defined in said first **dependently controlled** region, said second **dependently controlled** region and said dark **dependently controlled** region comprises at least M pixel lines.

Claim 40 (currently amended): The method for reading data recited in claim 39, wherein said plurality of pixel lines of the dark **dependently controlled** region of the N linear pixel arrays is defined as at least M/2 pixel lines.

Claim 41 (currently amended): A method for reading data from an imaging sensor, said imaging sensor comprising N linear pixel arrays, each of the N linear arrays having M **dependently controlled** charge coupled pixels, each pixel charge coupled, and further being coupled to one of N registers, the method comprising:

integrating charge in at least some pixels of a first **dependently controlled** region of the N linear pixel arrays and at least some pixels of a second **dependently controlled** region of the N linear pixel arrays, said first **dependently controlled** region of the N linear pixel arrays having at least one pixel line and said at least one pixel line of the first **dependently controlled** region is oriented in generally orthogonal direction to the N linear pixel arrays, said second region of the N linear pixel arrays having at least one pixel line and **said first and second dependently controlled regions having at least three pixel lines, and each of said at least three pixel lines of said first and second dependently controlled regions being oriented in generally orthogonal direction to the N linear pixel arrays** ~~said at least one pixel line of the second region is oriented in generally orthogonal direction to the N linear pixel arrays~~;

shifting charge from the at least some pixels of the first and second **dependently controlled** regions of the N linear pixel arrays along a linear path into a dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor, said dark **dependently controlled** region of the N linear pixel arrays having at least two pixel lines, said at least two pixel lines of the dark **dependently controlled** region are oriented in generally orthogonal direction to the N linear pixel arrays and are not exposed to light;

combining charge integrated in the first **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge from the dark **dependently controlled** region along each of the N linear pixel arrays to each of the N registers;

shifting charge from the N registers along a linear path;

representing charge from at least a portion of the first **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N first region data signals;

combining charge integrated in the second **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers by shifting charge from the dark **dependently controlled** region along each of the N linear pixel arrays to each of the N registers;

shifting charge from the N registers along a linear path;

representing charge from at least a portion of the second **dependently controlled** region of the N linear pixel arrays, shifted out of the N registers, as a corresponding portion of N second region data signals; and

clearing charge from the dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor.

Claim 42 (previously presented): The method for reading data recited in claim 41 above further comprises:

presenting said portion of N first region data signals; and

presenting said portion of N second region data signals.

Claim 43 (previously presented): The method for reading data recited in claim 42 above, wherein said first portion comprises N first region data signals and said second portion comprises N second region data signals.

Claim 44 (currently amended): The method for increasing dynamic range recited in claim 41 above, wherein integrating charge in at least some pixels of a first **dependently controlled** region of the N linear pixel arrays and at least some pixels of a second **dependently controlled** region of the N linear pixel arrays, further comprises:

accumulating charge in the at least some pixels of the first and second **dependently controlled** regions of the N linear pixel arrays for a predetermined time period.

Claim 45 (currently amended): The method for reading data recited in claim 41 above, wherein clearing charge from the dark **dependently controlled** region of the N linear pixel arrays further comprises:

shifting charge from the dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor in the N registers; and

discarding the charge shifted from the dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor.

Claim 46 (currently amended): The method for reading data recited in claim 41, wherein the dark **dependently controlled** region of the N linear pixel arrays comprises a quantity of pixel lines at least as great as a sum of said at least one pixel line of the first **dependently controlled** region and said at least one pixel line of the second **dependently controlled** region.

Claim 47 (currently amended): The method for reading data recited in claim 41, wherein the dark **dependently controlled** region of the N linear pixel arrays comprises at least M/2 pixel lines.

Claim 48 (currently amended): The method for reading data recited in claim 41, wherein said first **dependently controlled** region of the N linear pixel arrays having a first image projected thereon, and said second **dependently controlled** region of the N linear pixel arrays having a second image projected thereon.

Claim 49 (currently amended): The method for reading data recited in claim 41, wherein said first **dependently controlled** region of the N linear pixel arrays being exposed to a first light source, and said second **dependently controlled** region of the N linear pixel arrays being exposed to a second light source.

Claim 50 (currently amended): The method for reading data recited in claim 41 above further comprises:

integrating charge in at least some pixels of at least one other **dependently controlled** region of the N linear pixel arrays, each of said at least one other **dependently controlled** region of the N linear pixel arrays having at least one pixel line and said at least one pixel line of said at least one other **dependently controlled** region of the N linear pixel arrays is oriented in generally orthogonal direction to the N linear pixel arrays;

shifting charge from the at least some pixels of said at least one other **dependently controlled** region of the N linear pixel arrays along a linear path into a dark **dependently controlled** region of the N linear pixel arrays of the imaging sensor;

for each of the at least one other **dependently controlled** region of the N linear pixel arrays, combining charge integrated in one of the at least one other **dependently controlled** region of the N linear pixel arrays by shifting charge from the dark **dependently controlled** region along each of the N linear pixel arrays to each of the N registers; and

shifting charge from the N registers along a linear path.